

Normative data and factorial structure of the Turkish version of the Temperament and Character Inventory

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Abstract

Cloninger's dimensional psychobiological model of personality accounts for both normal and abnormal variation in 2 major personality components: temperament and character. Here, we examined the psychometric properties of the Turkish version of the Temperament and Character Inventory (TCI) in a healthy Turkish population, obtaining normative data for the Turkish TCI. The study was conducted in healthy volunteers at both Karadeniz Technical University School of Medicine and Atatürk University School of Medicine ($n = 683$). The Turkish sample had significantly lower mean scores on Novelty Seeking and Reward Dependence and higher mean scores on Harm Avoidance than the American sample. The Turkish sample had significantly lower scores on Self-Directedness, Cooperativeness, and Self-Transcendence. Self-Directedness and Harm Avoidance, Cooperativeness and Reward Dependence, and Cooperativeness and Self-Directedness were intercorrelated. The Cronbach coefficients were between 0.60 and 0.85 on temperament dimensions, and between 0.82 and 0.83 on character dimensions. The lowest Cronbach coefficients were found in Reward Dependence (0.60) and Persistence (0.62). A principal axis factor analysis with a 4-factor solution revealed the highest loadings on Novelty Seeking and Harm Avoidance and relatively weaker loadings on Reward Dependence and Persistence. A 3-factor solution for character subscales indicated the highest loadings on Cooperativeness and Self-Transcendence. The factorial structure was consistent with Cloninger's 7-factor model of personality, and test-retest indicated a good stability of scores over time. The reliability and factorial validity of the Turkish version of the TCI are therefore supported.

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1. Introduction

Cloninger's dimensional psychobiological model of personality accounts for both normal and abnormal variation in 2 major personality components: temperament and character [1,2]. Cloninger's model was initially based on a synthesis of information from twin and family studies, studies of longitudinal development, neuropharmacologic and neurobehavioral studies of learning in humans and other

animals, and psychometric studies of personality in individuals and in twin pairs [1,2].

Cloninger's concepts of personality elaborates 4 dimensions of temperament—Novelty Seeking (NS), Harm Avoidance (HA), Reward Dependence (RD), and Persistence (P). They are thought to be genetically independent traits and are moderately inheritable and stable throughout life. *Novelty Seeking* is thought to be derived by the behavioral activation system. It reflects the tendency of an individual toward exhilaration in response to novel stimuli and cues. Subjects with high scores on NS show an increased frequency of exploratory behavior, impulsive decision making, quick temper loss, and active frustration avoidance. *Harm Avoidance* is related to the behavioral inhibition system. It reflects the tendency of an individual to inhibit or

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